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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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JUN 05 2003
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In re PATENT APPLICATION of Hong et al.

Appln. No.: 09/878,131

Group Art Unit: 1637

Filed: June 8, 2001

Examiner: S. Chunduru

Title: Low-Temperature Cycle Extension of DNA with High Priming Specificity

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May 30, 2003

AMENDMENT

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

Responsive to the Office Action dated February 5, 2003 in connection with the above-referenced application, please enter the following amendments and consider the following remarks.

IN THE CLAIMS:

Please amend claims 1, 9, 22 and 30 as follows.

1. (Twice Amended) A method for extending an oligonucleotide primer or a pair of oligonucleotide primers using an enzymatic cycle primer extension reaction at temperatures between about 45°C and about 65°C, and a melting temperature of about 70°C, comprising the step of mixing a template DNA with a primer or a pair of primers and a natural or a modified form of a moderately thermostable DNA polymerase from an organism selected from the group consisting of *Bacillus stearothermophilus*, *Bacillus caldotenax* and *Bacillus caldolyticus*, wherein the DNA polymerase has proofreading 3'-5' exonuclease activity during DNA primer extension over a template, such that the DNA polymerase functions to excise mismatched nucleotides from the 3' terminus of the DNA